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Atty. Dkt. No. 073442-0301

**Listing of Claims:**

1. (Previously presented) A method of inducing apoptosis of a selected group of vertebrate cells *in vivo*, comprising administering to a vertebrate comprising said cells a thiaminase or derivative thereof or a non-pathogenic bacterium comprising a recombinant nucleic acid molecule encoding said thiaminase or derivative targeted to said selected group of vertebrate cells, thereby reducing the level of thiamin in said cells sufficiently to induce apoptosis of said cells.

2. (Canceled)

3. (Previously presented) A method for delivering a thiaminase or derivative thereof to vertebrate cells *in vivo*, comprising the step of contacting said cells with a non-pathogenic bacterium comprising a nucleic acid sequence encoding said thiaminase or derivative.

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Canceled)

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10. (Previously presented) A eukaryotic expression vector comprising a recombinant nucleic acid sequence encoding a thiaminase.

11. (Previously presented) A vector comprising a recombinant nucleic acid sequence encoding a thiaminase, wherein said thiaminase or derivative is different from a thiaminase from *Bacillus thiaminolyticus*.

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Withdrawn) An isolated, purified, or enriched thiaminase or derivative, wherein said thiaminase is not a *Bacillus thiaminolyticus* thiaminase.

17. (Withdrawn) The thiaminase or derivative of claim 16, wherein said thiaminase or derivative is a homolog of a *Naegleria gruberi* thiaminase or derivative.

18. (Previously presented) A purified, enriched, or isolated nucleic acid sequence encoding a thiaminase or derivative different from *Bacillus thiaminolyticus* thiaminase I, wherein said nucleic acid sequence is at least 70% identical to an equal length sequence at least 500 nucleotides in length of the *Naegleria gruberi* thiaminase sequence of SEQ ID NO. 3.

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19. (Previously presented) The nucleic acid sequence of claim 18, wherein said nucleic acid sequence comprises a sequence at least 95% identical to the sequence of SEQ ID NO. 3.

20. (Withdrawn) A method for identifying a nucleic acid sequence coding for a thiaminase from a species different from *Naegleria gruberi* or *Bacillus thiaminolyticus*, comprising  
identifying a nucleic acid sequence from said species that is homologous to a thiaminase sequence from *Naegleria gruberi* or *Bacillus thiaminolyticus*.

21. (Withdrawn) The method of claim 20, wherein said identifying comprises amplifying a nucleic acid sequence from said species using primers derived from *Naegleria gruberi* or *Bacillus thiaminolyticus*.

22. (Withdrawn) The method of claim 20, wherein said identifying comprises performing sequence comparisons in a sequence database to identify homologous sequences.

23. (Withdrawn) The method of claim 20, wherein said identifying comprises probing nucleic acid from said species with probes derived from *Naegleria gruberi* or *Bacillus thiaminolyticus*.

24. (Withdrawn) The method of claim 20, wherein said identifying comprises sequencing at least a portion of a thiaminase sequence isolated from said species; and  
identifying a nucleic acid sequence from said species encoding said thiaminase sequence.

25. (Currently Amended) A non-pathogenic bacterium ~~encoding~~ comprising a recombinant nucleic acid sequence encoding a thiaminase.

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26. (Previously presented) The bacterium of claim 25, wherein said bacterium is a Clostridium bacterium.

27. (Previously presented) The bacterium of claim 25, wherein said bacterium is a Salmonella bacterium.

28. (Previously presented) The method of claim 1, wherein said thiaminase is at least 35% identical to the thiaminase of SEQ ID NO: 4.

29. (Previously presented) The method of claim 1, wherein said thiaminase is at least 50% identical to the thiaminase of SEQ ID NO: 4.

30. (Previously presented) The method of claim 3, wherein said thiaminase is at least 35% identical to the thiaminase of SEQ ID NO: 4.

31. (Previously presented) The method of claim 3, wherein said thiaminase is at least 50% identical to the thiaminase of SEQ ID NO: 4.

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By the present communication there is provided a listing of claims of the present application which is compliant with 37 CFR § 1.121. Claims 2, 4-9, and 12-15 had been canceled previously, and the status and claim number within the present listing of claims reflects these previous actions. Claims 20-24 had been withdrawn by the Examiner as being drawn to non-elected material in the Office Action dated February 4, 2003, and the appropriate status indicator has been incorporated into the listing of claims presented herein.

In the event that any matters remain to be resolved in view of this communication, the Examiner is encouraged to call the undersigned so that a prompt disposition of this application can be achieved.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-0872. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-0872.

Respectfully submitted,

Date April 27, 2005By Steven C. Koerber

FOLEY & LARDNER LLP  
Customer Number: 30542  
Telephone: (858) 847-6725  
Facsimile: (858) 792-6773

Steven C. Koerber  
Registration No. 54,233 for  
Richard J. Warburg  
Registration No. 32,327  
Attorneys for Applicant